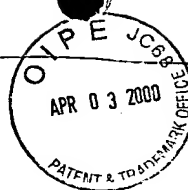


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<110> Sakowicz, Roman
Goldstein, Lawrence S. B.
The Regents of the University of California

<120> Identification and Expression of a Novel Kinesin Motor Protein

<130> 18557C-000710US

<140> US 09/235,416

<141> 1999-01-22

<150> WO PCT/US99/01355

<151> 1999-01-22

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<151> 1998-01-23

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<170> PatentIn Ver. 2.0

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<212> PRT

<213> Thermomyces lanuginosus

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microtubule motor protein

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<221> DOMAIN

<222> (1)..(357)

<223> kinesin-like microtubule motor domain

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<222> (358)..(442)

<223> neck domain links motor domain to stalk domain

<220>

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35 40 45

Arg Lys Ser Gly Lys Thr Ile Met Asp Gly Pro Lys Ala Phe Ala Phe
50 55 60

Asp Arg Ser Tyr Trp Ser Phe Asp Lys Asn Ala Pro Asn Tyr Ala Arg
65 70 75 80

Gln Glu Asp Leu Phe Gln Asp Leu Gly Val Pro Leu Leu Asp Asn Ala
85 90 95

Phe Lys Gly Tyr Asn Asn Cys Ile Phe Ala Tyr Gly Gln Thr Gly Ser
100 105 110

Gly Lys Ser Tyr Ser Met Met Gly Tyr Gly Lys Glu His Gly Val Ile
115 120 125

Pro Arg Ile Cys Gln Asp Met Phe Arg Arg Ile Asn Glu Leu Gln Lys
130 135 140

Asp Lys Asn Leu Thr Cys Thr Val Glu Val Ser Tyr Leu Glu Ile Tyr
145 150 155 160

Asn Glu Arg Val Arg Asp Leu Leu Asn Pro Ser Thr Lys Gly Asn Leu
165 170 175

Lys Val Arg Glu His Pro Ser Thr Gly Pro Tyr Val Glu Asp Leu Ala
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Lys Leu Val Val Arg Ser Phe Gln Glu Ile Glu Asn Leu Met Asp Glu
195 200 205

Gly Asn Lys Ala Arg Thr Val Ala Ala Thr Asn Met Asn Glu Thr Ser
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Ser Arg Ser His Ala Val Phe Thr Leu Thr Leu Thr Gln Lys Trp His
225 230 235 240

Asp Glu Glu Thr Lys Met Asp Thr Glu Lys Val Ala Lys Ile Ser Leu
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Val Asp Leu Ala Gly Ser Glu Arg Ala Thr Ser Thr Gly Ala Thr Gly
260 265 270

Ala Arg Leu Lys Glu Gly Ala Glu Ile Asn Arg Ser Leu Ser Thr Leu
275 280 285

Gly Arg Val Ile Ala Ala Leu Ala Asp Met Ser Ser Gly Lys Gln Lys
290 295 300

Lys Asn Gln Leu Val Pro Tyr Arg Asp Ser Val Leu Thr Trp Leu Leu
305 310 315 320

Lys Asp Ser Leu Gly Gly Asn Ser Met Thr Ala Met Ile Ala Ala Ile
325 330 335

Ser Pro Ala Asp Ile Asn Phe Glu Glu Thr Leu Ser Thr Leu Arg Tyr
340 345 350

BZ

Ala Asp Ser Ala Lys Arg Ile Lys Asn His Ala Val Val Asn Glu Asp
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Pro Asn Ala Arg Met Ile Arg Glu Leu Lys Glu Glu Leu Ala Gln Leu
370 375 380

Arg Ser Lys Leu Gln Ser Ser Gly Gly Gly Gly Gly Ala Gly Gly
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Ser Gly Gly Pro Val Glu Glu Ser Tyr Pro Pro Asp Thr Pro Leu Glu
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Lys Gln Ile Val Ser Ile Gln Gln Pro Asp Ala Thr Val Lys Lys Met
420 425 430

Ser Lys Ala Glu Ile Val Glu Gln Leu Asn Gln Ser Glu Lys Leu Tyr
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Arg Asp Leu Asn Gln Thr Trp Glu Glu Lys Leu Ala Lys Thr Glu Glu
450 455 460

Ile His Lys Glu Arg Glu Ala Ala Leu Glu Glu Leu Gly Ile Ser Ile
465 470 475 480

Glu Lys Gly Phe Val Gly Pro Tyr His Ser Lys Glu Met Pro His Leu
485 490 495

Val Asn Leu Ser Asp Asp Pro Leu Leu Ala Glu Cys Leu Val Tyr Asn
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Ile Lys Pro Gly Gln Thr Arg Val Gly Asn Val Asn Gln Asp Thr Gln
515 520 525

Ala Glu Ile Arg Leu Asn Gly Ser Lys Ile Leu Lys Glu His Cys Thr
530 535 540

Phe Glu Asn Val Asp Asn Val Val Thr Ile Val Pro Asn Glu Lys Ala
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Ala Val Met Val Asn Gly Val Arg Ile Asp Lys Pro Thr Arg Leu Arg
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Ser Gly Tyr Arg Ile Ile Leu Gly Asp Phe His Ile Phe Arg Phe Asn
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His Pro Glu Glu Ala Arg Ala Glu Arg Gln Glu Gln Ser Leu Leu Arg
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Asp Arg Thr Leu Ser Lys Ala Gly Ser Asp Ala Asp Gly Asp Ser Arg
625 630 635 640

Ser Asp Ser Pro Leu Pro His Phe Arg Gly Lys Asp Ser Asp Trp Phe
645 650 655

Tyr Ala Arg Arg Glu Ala Ala Ser Ala Ile Leu Gly Leu Asp Gln Lys
660 665 670

69

Ile Ser His Leu Thr Asp Asp Glu Leu Asp Ala Leu Phe Asp Asp Val
675 680 685

Gln Lys Ala Arg Ala Val Arg Arg Gly Leu Val Glu Asp Asn Glu Asp
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Gly Thr Ile Asp Asn Phe Ser Leu Asp Thr Ala Ile Thr Met Pro Gly
725 730 735

Thr Pro Arg Ser Asp Asp Asp Gly Asp Ala Leu Phe Phe Gly Asp Lys
740 745 750

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microtubule motor protein

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gcatttg	cgatcggt	gtattgtt	tttgaca	atgctcca	ctatgca	240
caggaag	tattcca	tctcggag	ccgcttct	ataatgca	caaggg	300
aacaatt	gtatcgct	cggtcaga	gggtcgg	agtcctat	aatgatg	360
tatggca	agcatgg	gatcccc	atgtgcc	acatgttc	gcgtatta	420
gaactgc	agagaca	cctcactt	accgtcg	tttcgtac	tgaaatt	480
aatgaac	gtcgagac	gctgaatc	tcgacaaa	ggaatctc	ggtccga	540
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aacgaga	catccag	tcacgcgt	ttcacttt	ccttgac	caaagtg	720
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attaa	ctttg	aagagact	cgatagcg	actctgc	gcgaatc	1080
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tcgattc	agccgat	gacagtc	aaaatgag	agcgagaa	cgtggag	1320
ctgaacc	agag	ctatcgga	ctcaatc	cctggga	gaagctg	1380
aagaccg	agga	aaatccac	ggaacgag	gcggcgct	aggagct	1440
gaaaagg	gt	ttgtggcc	ttaccact	aaagaa	tcacatc	1500
gatgat	ctct	ttctggt	gtgtctt	tacaac	atcagc	1560
ggaaacg	tca	accaagata	acaagcg	attcgt	ctga	1620
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64

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ccaggccgct acgaccggac actgagcaag gcgggttcgg atgcggacgg cgatttctgc 1920
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gaagctgcta gcgcgacccct agggttggat cagaagatct ctcatctgac agatgacgag 2040
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